

BPWCB: Battery Powered Waste Collector Boat

Boat Material: Stainless Steel

Length x Weight: 2m x 3m

Height: 0.5m

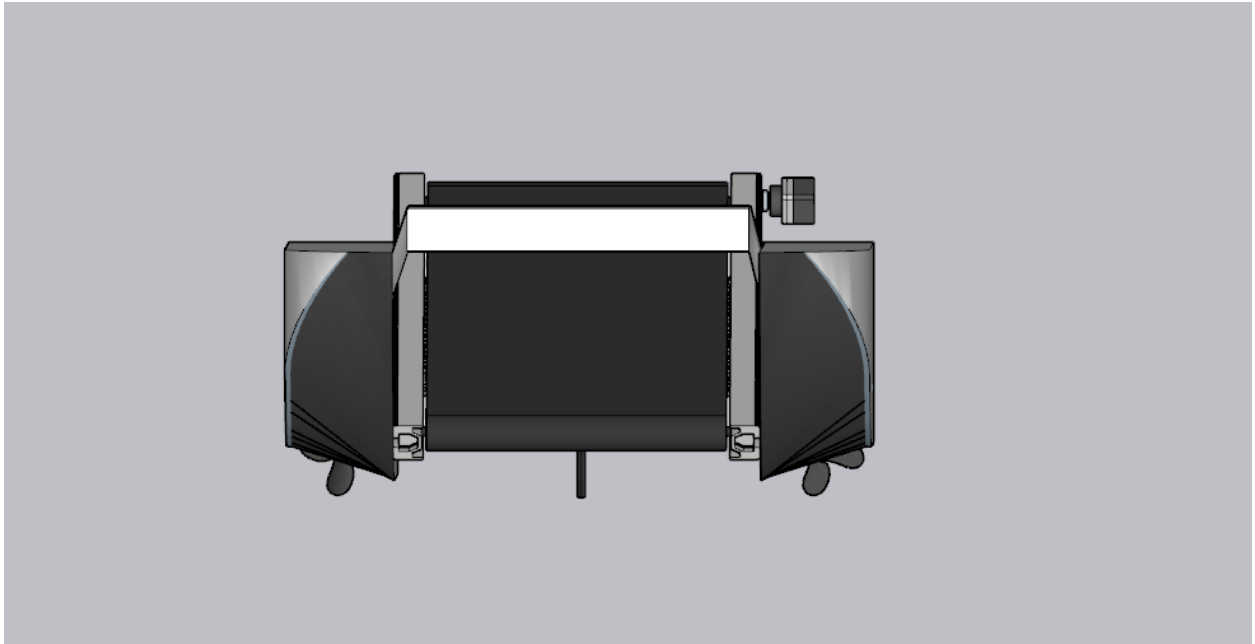
Operational Speed: 10-15km per hour

Specifications: (CURRENT/ NOT FINAL)

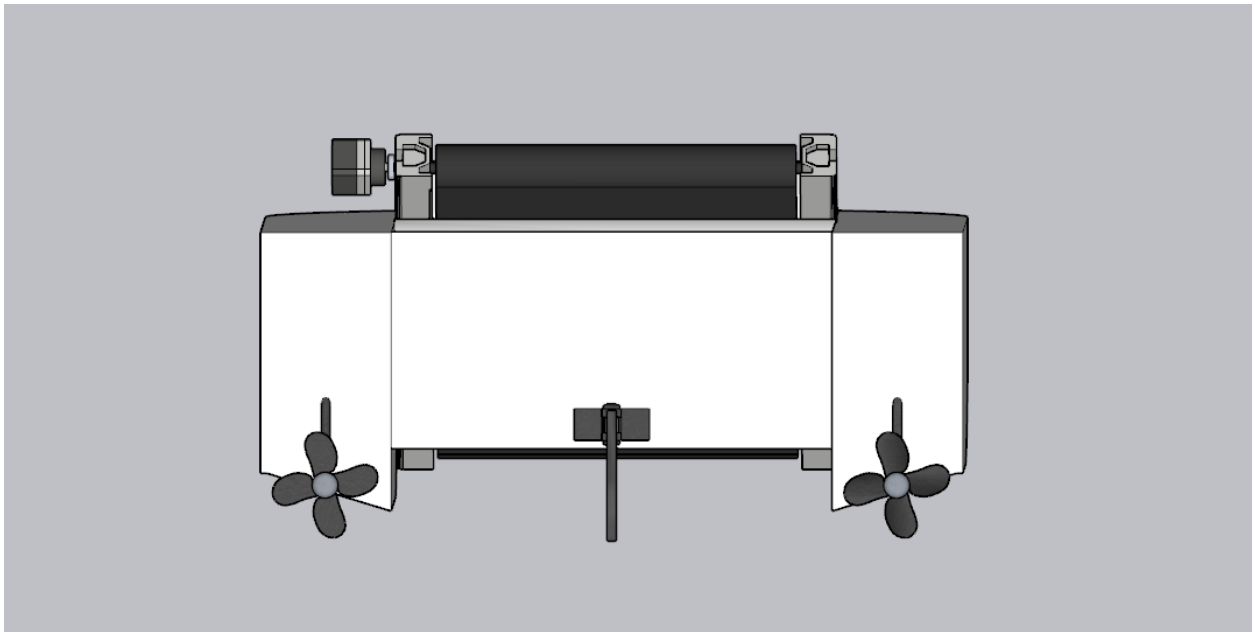
- Battery (Lithium Ion)
- Arduino Mega
 - GPS
 - Memory (SD card)
 - Ultrasonic Sensor (SONAR)
 - IMU Sensor
- Conveyor Belt
- DC Motor
- Garbage Bin (Stainless Steel / removable)
- Rudder (servo)
- Propeller
- Power bank (can power for 9-10 hrs.)

Blueprint:

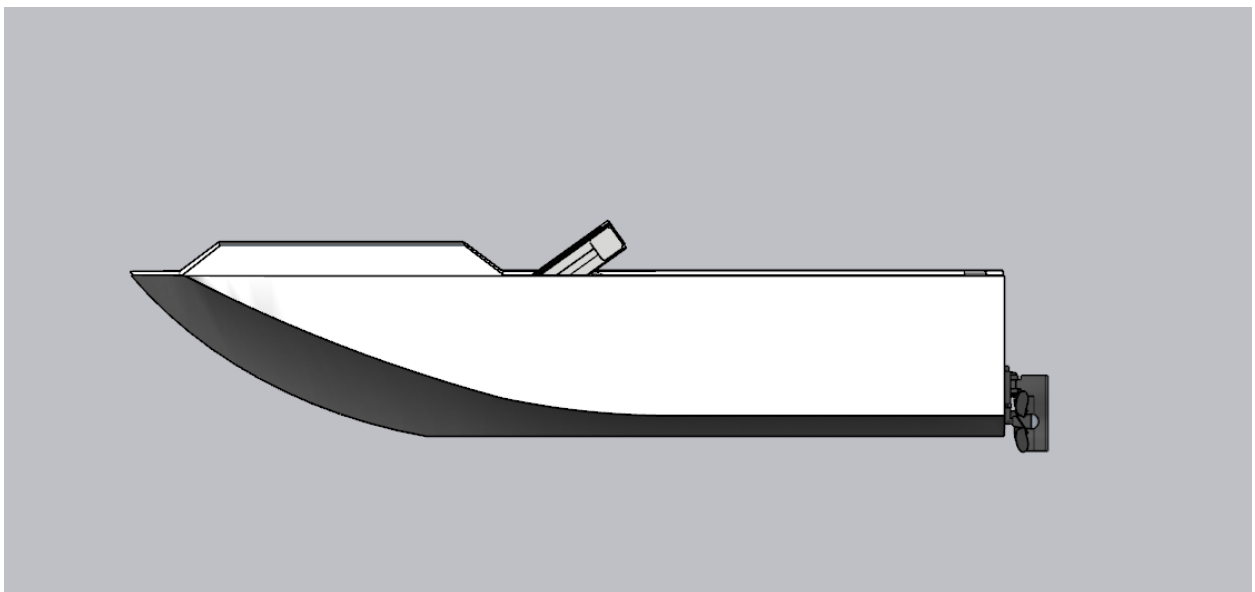
Front View



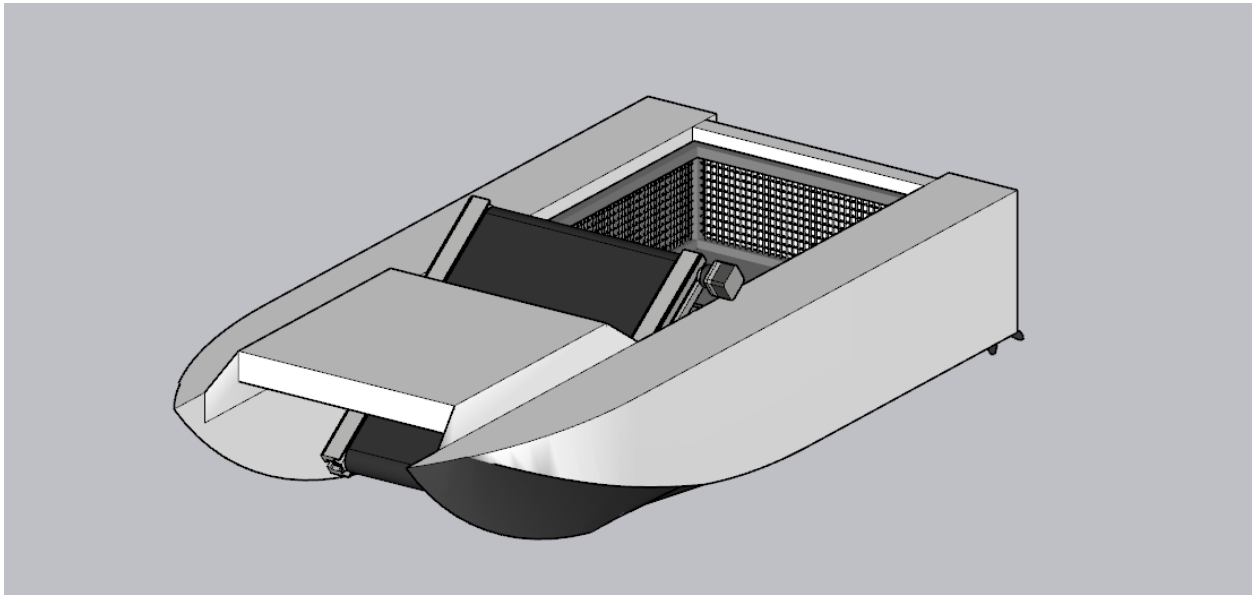
Back View



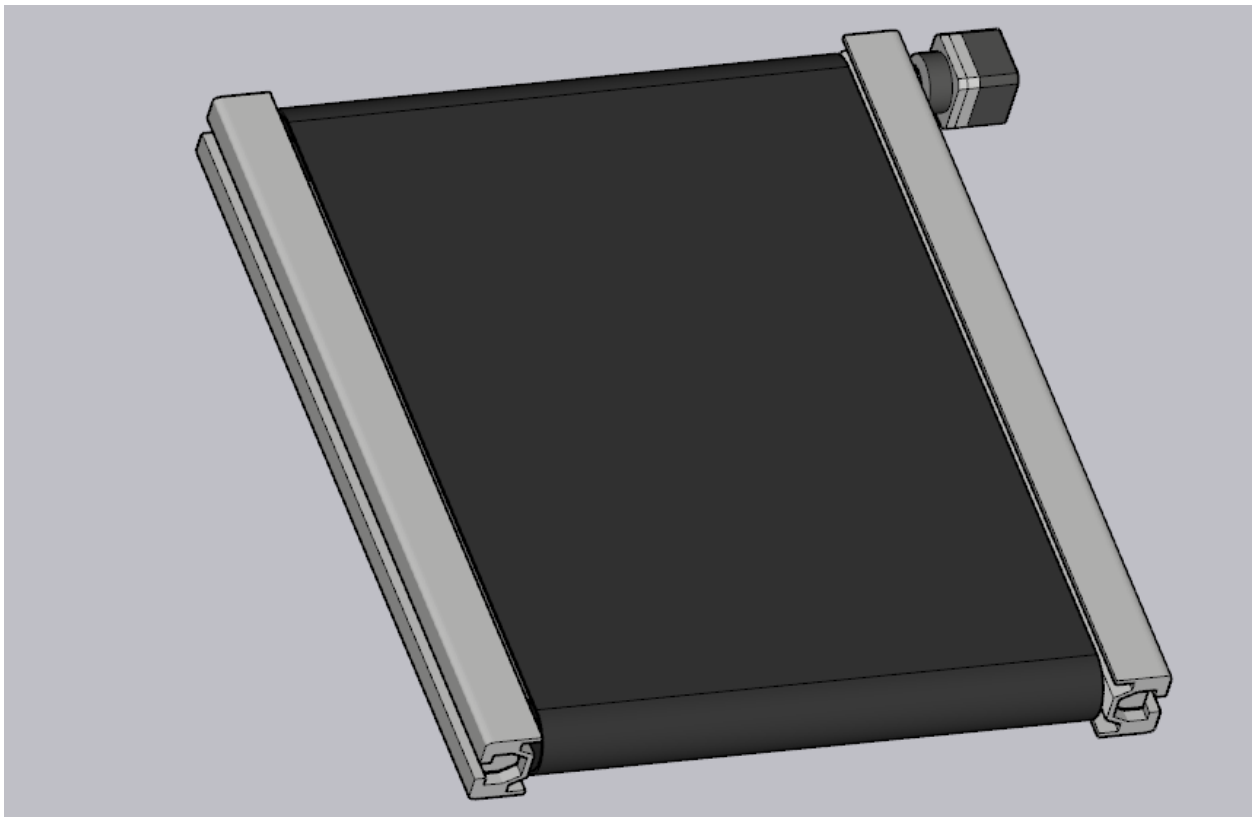
Side View

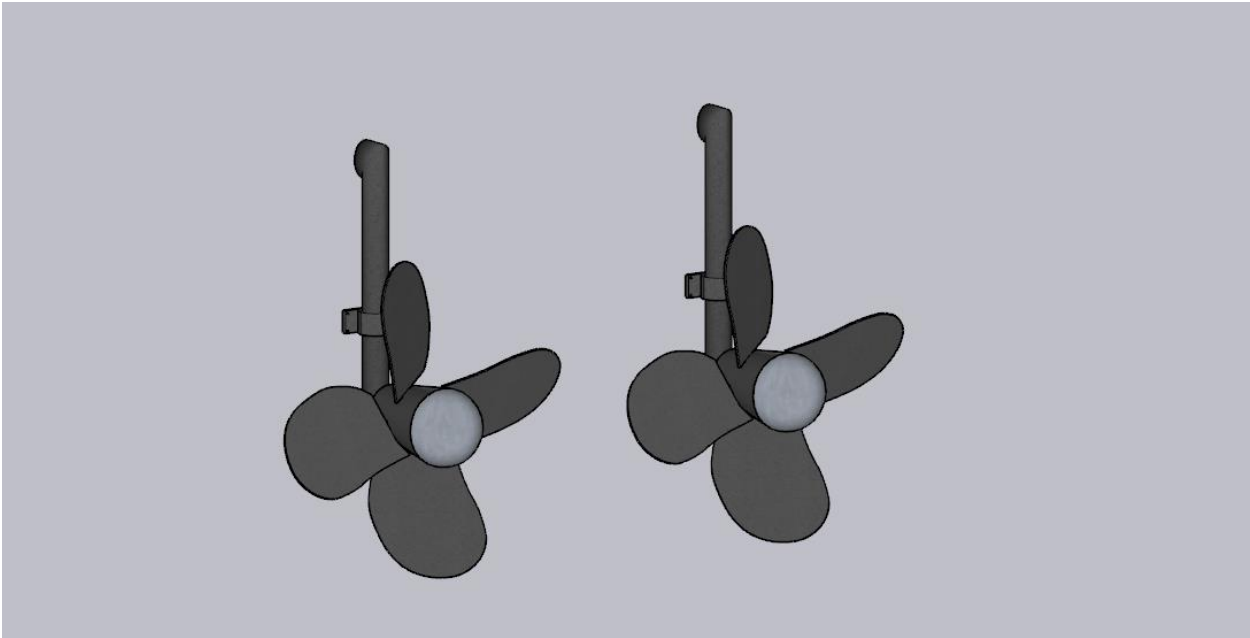
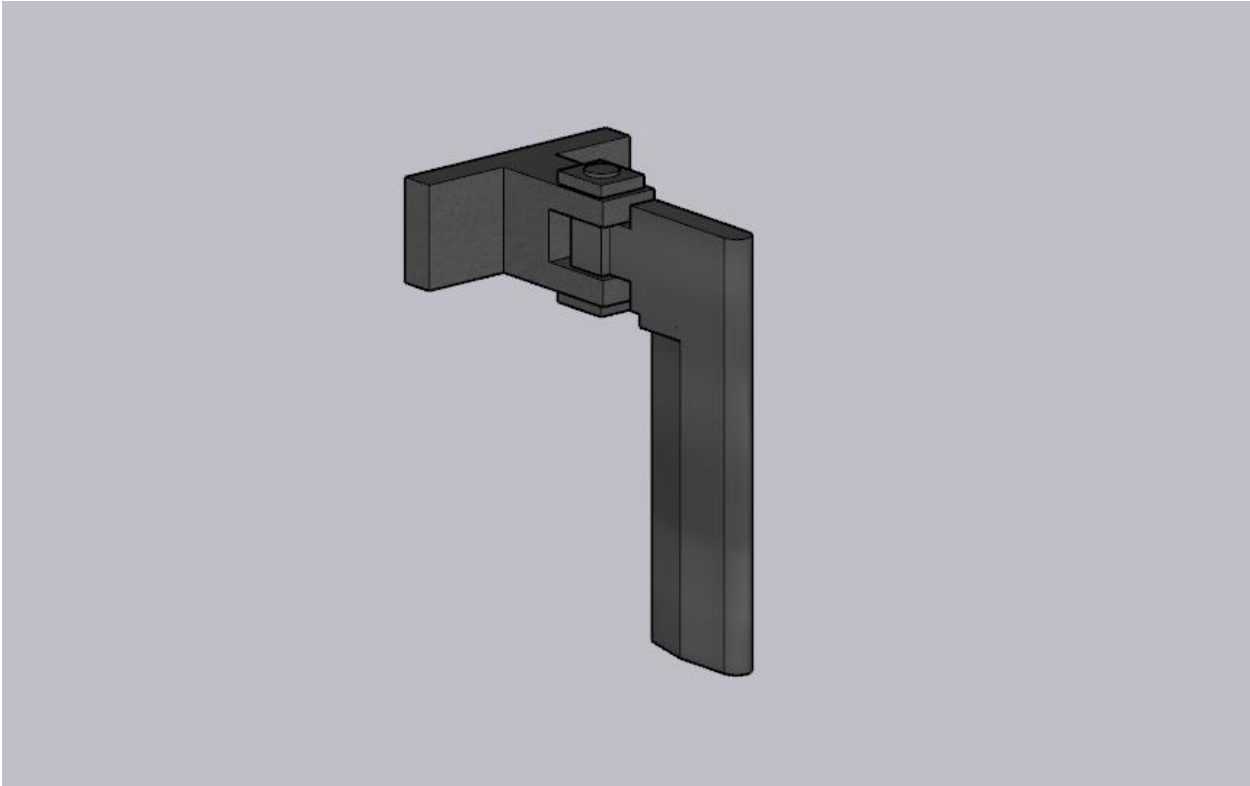


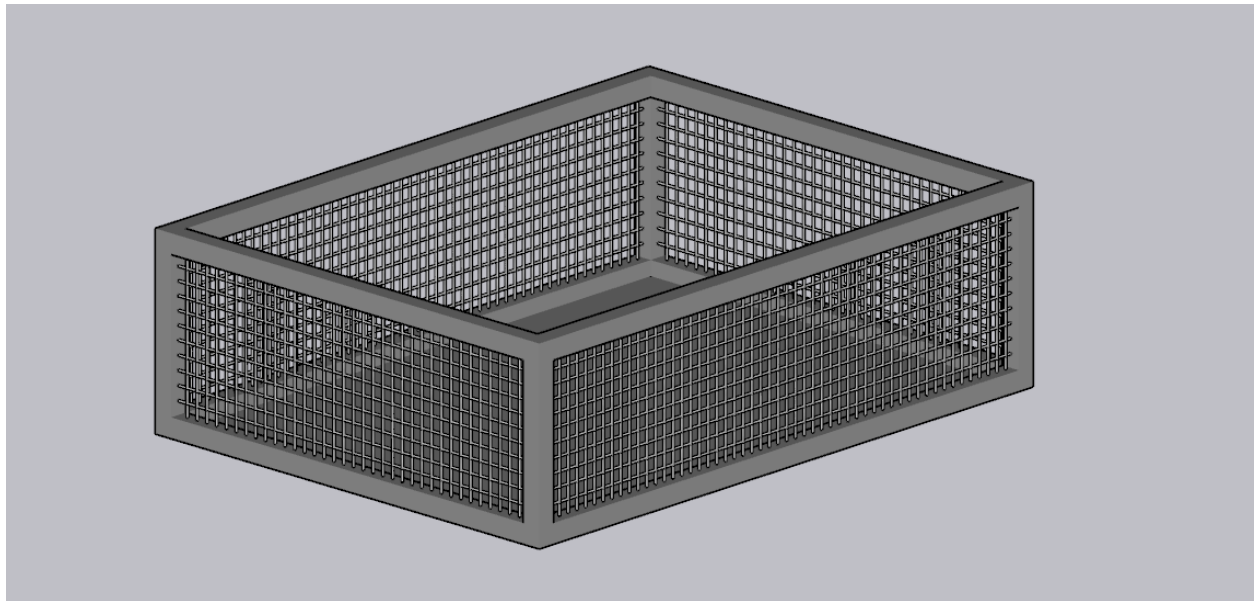
Top View



Conveyor Belt / Rudder (Servo) / Propeller / Garbage Bin

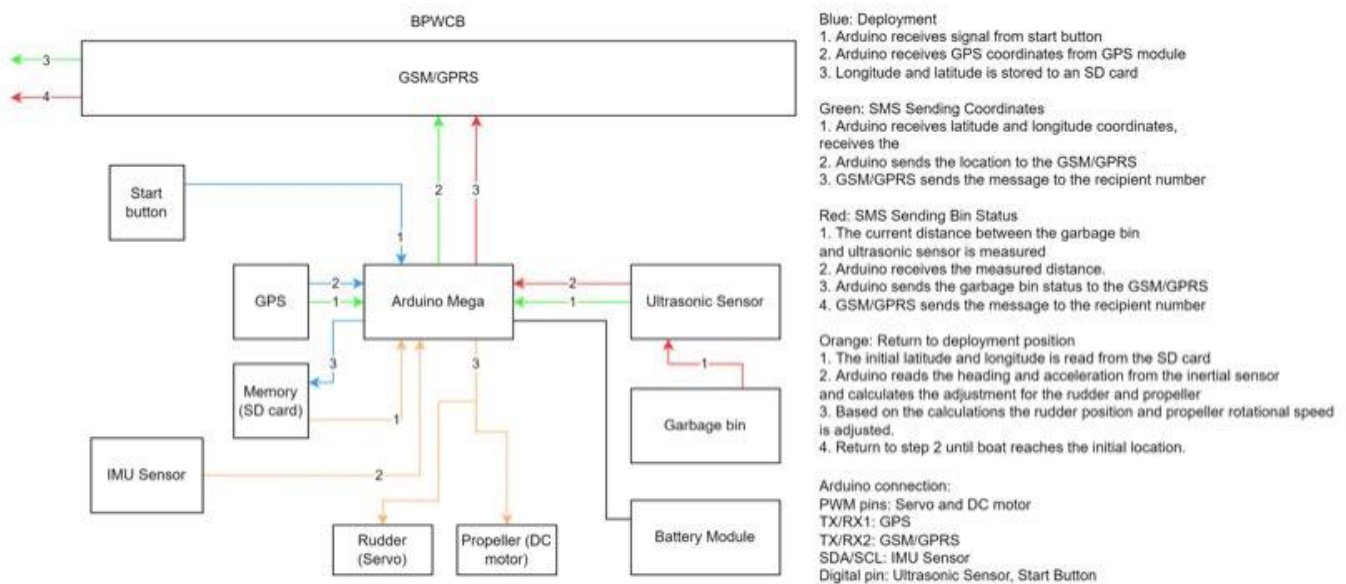






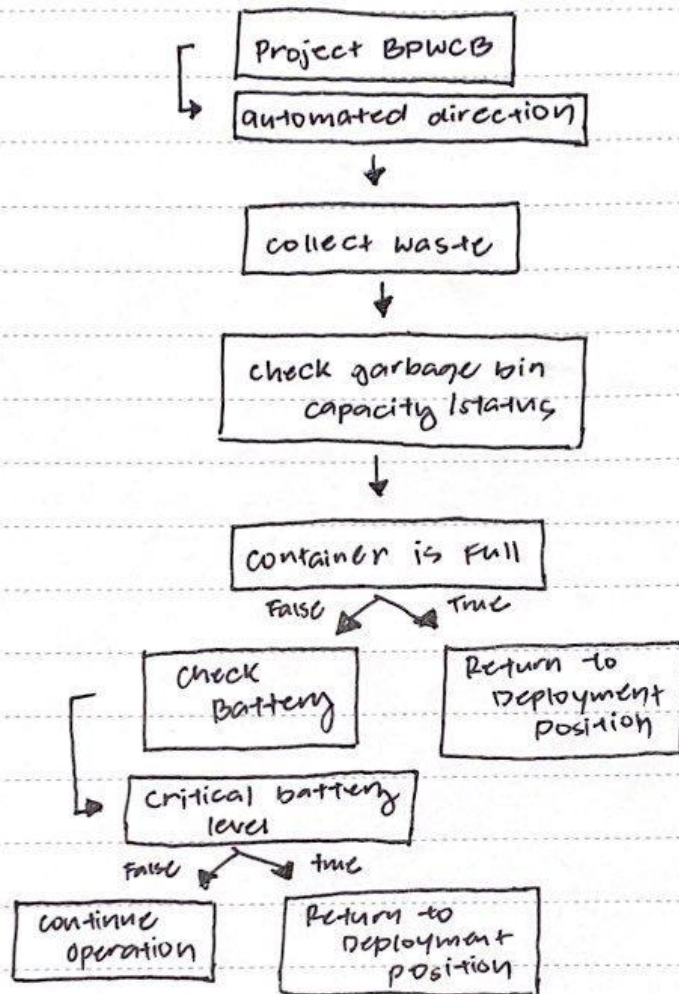
Other Details:

Arduino System



Waste Collection Process:

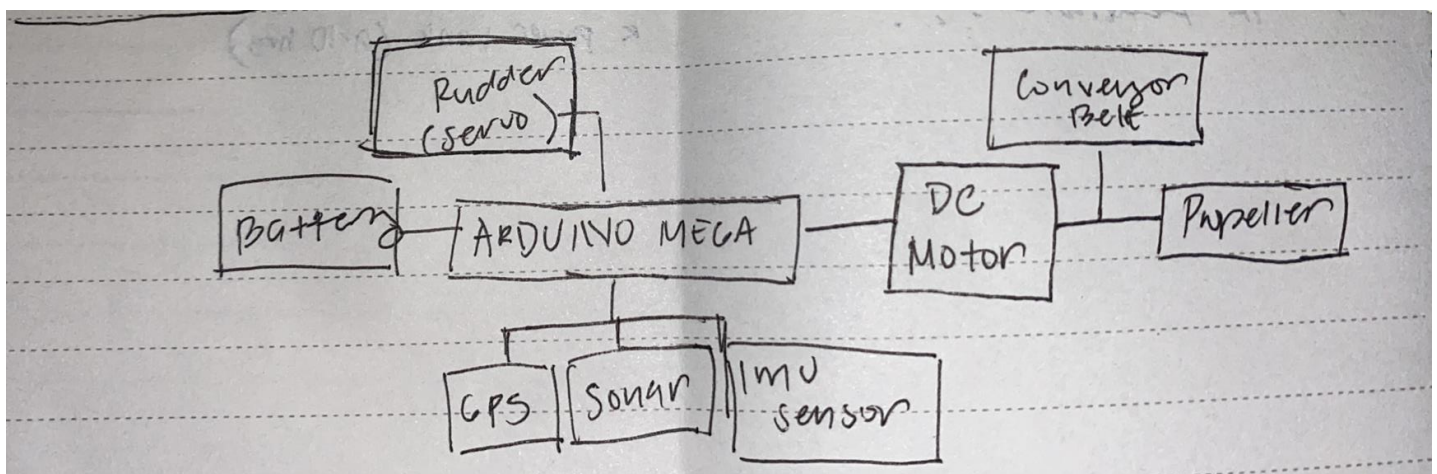
Waste collection Process :



Schedule :

- 8 hours of operation
- SMS message every 2 hours

Sample Machine Mechanism:



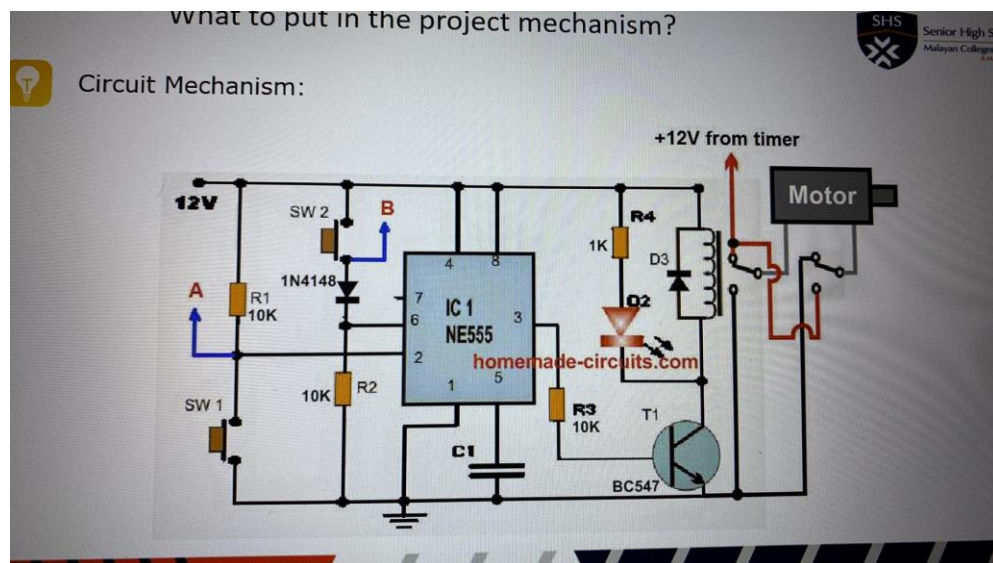
INFORMATION NEEDED:

Project Mechanism

This part is simply the following (For Machine Based):

- Step by step process on how to create the product.
- Step by step process on how the product works:
 - Circuit Mechanism
 - Machine Mechanism

- Circuit Mechanism (example from our teacher in capstone)



Complete Specification

What to put in the project model?

Components of Project Model (for Machine Based):

- Complete Specifications

Solar Panel	
Output Voltage	20V
Wattage	25W
Solar Panel Controller	
Input Voltage	12-60V
Output Voltage	12V
Amperage	10A
PVC Pipe	
Diameter	0.84" (outside) 0.62" (inside)

Length	1 m (can be extended using PVC fitting T and Elbow and an another PVC pipe)
Vinyl Sticker-coated Box	
Dimensions	26" x 6" x 14"
Lead Acid Battery	
Output Voltage	12V
Amperage	50Ah
GSM 900 v2	
Antenna	ASMA, IPX
Dimensions	10cm x 6cm x 3cm
Input Voltage	5V
BMP180 Pressure Sensor	
Input Voltage	5V
Pressure Range	300 to 1100hPa
Peak Current	1000μA

Battery Protection (what to do in order battery won't get wet during operation)